

METHOD AND SYSTEM FOR PERFORMING A LONGEST PREFIX MATCH SEARCH

ABSTRACT

A method and system for finding a longest prefix match for a key in a computer
5 network is disclosed. The method and system include providing a main engine and providing
an auxiliary engine. The main engine is for storing a first plurality of addresses and for
searching the first plurality of addresses for the longest prefix match for the key. None of the
first plurality of addresses is a prefix for another address of the first plurality of addresses.
The auxiliary engine is for storing and searching a second plurality of addresses. A first
10 address of the second plurality of addresses is capable of including the prefix for a second
address of the first plurality of addresses or for a third address for the second plurality of
addresses. None of the first plurality of addresses is the prefix for any of the second plurality
of addresses. Each of the second plurality of addresses is distinct from each of the first
15 plurality of addresses.